E 14

```
PPPPPPPPPPPP        AAAAAAAAA     TTTTTTTTTTTTTTT     CCCCCCCCCCCC  HHH         HHH
PPPPPPPPPPPP        AAAAAAAAA     TTTTTTTTTTTTTTT     CCCCCCCCCCCC  HHH         HHH
PPPPPPPPPPPP        AAAAAAAAA     TTTTTTTTTTTTTTT     CCCCCCCCCCCC  HHH         HHH
PPP         PPP  AAA         AAA        TTT        CCC              HHH         HHH
PPP         PPP  AAA         AAA        TTT        CCC              HHH         HHH
PPP         PPP  AAA         AAA        TTT        CCC              HHH         HHH
PPP         PPP  AAA         AAA        TTT        CCC              HHH         HHH
PPP         PPP  AAA         AAA        TTT        CCC              HHH         HHH
PPP         PPP  AAA         AAA        TTT        CCC              HHH         HHH
PPPPPPPPPPPP     AAA         AAA        TTT        CCC              HHHHHHHHHHHHHHH
PPPPPPPPPPPP     AAA         AAA        TTT        CCC              HHHHHHHHHHHHHHH
PPPPPPPPPPPP     AAA         AAA        TTT        CCC              HHHHHHHHHHHHHHH
PPP              AAAAAAAAAAAAAAA        TTT        CCC              HHH         HHH
PPP              AAAAAAAAAAAAAAA        TTT        CCC              HHH         HHH
PPP              AAAAAAAAAAAAAAA        TTT        CCC              HHH         HHH
PPP              AAA         AAA        TTT        CCC              HHH         HHH
PPP              AAA         AAA        TTT        CCC              HHH         HHH
PPP              AAA         AAA        TTT        CCC              HHH         HHH
PPP              AAA         AAA        TTT           CCCCCCCCCCCC  HHH         HHH
PPP              AAA         AAA        TTT           CCCCCCCCCCCC  HHH         HHH
PPP              AAA         AAA        TTT           CCCCCCCCCCCC  HHH         HHH
```

```
**FILE**ID**PREFIX

PPPPPPPP    RRRRRRRR    EEEEEEEEEE  FFFFFFFFFF    IIIIII    XX      XX
PPPPPPPP    RRRRRRRR    EEEEEEEEEE  FFFFFFFFFF    IIIIII    XX      XX
PP      PP  RR      RR  EE          FF              II      XX      XX
PP      PP  RR      RR  EE          FF              II      XX      XX
PP      PP  RR      RR  EE          FF              II        XX  XX
PP      PP  RR      RR  EE          FF              II        XX  XX
PPPPPPPP    RRRRRRRR    EEEEEEEE    FFFFFFFF        II          XX
PPPPPPPP    RRRRRRRR    EEEEEEEE    FFFFFFFF        II          XX
PP          RR  RR      EE          FF              II        XX  XX
PP          RR  RR      EE          FF              II        XX  XX
PP          RR    RR    EE          FF              II      XX      XX      ....
PP          RR    RR    EE          FF              II      XX      XX      ....
PP          RR      RR  EEEEEEEEEE  FF            IIIIII    XX      XX      ....
PP          RR      RR  EEEEEEEEEE  FF            IIIIII    XX      XX      ....

RRRRRRRR    EEEEEEEEEE    QQQQQQ
RRRRRRRR    EEEEEEEEEE    QQQQQQ
RR      RR  EE          QQ      QQ
RR      RR  EE          QQ      QQ
RR      RR  EE          QQ      QQ
RR      RR  EE          QQ      QQ
RRRRRRRR    EEEEEEEE    QQ      QQ
RRRRRRRR    EEEEEEEE    QQ      QQ
RR  RR      EE          QQ  QQ  QQ
RR  RR      EE          QQ  QQ  QQ
RR    RR    EE          QQ    QQ
RR    RR    EE          QQ    QQ
RR      RR  EEEEEEEEEE    QQQQ  QQ
RR      RR  EEEEEEEEEE    QQQQ  QQ
```

```
!
! Version:      'V04-000'
!
!****************************************************************************
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!****************************************************************************
!
!
!
!
!
!++
!
! MODULE: PREFIX.REQ
!
! FACILITY: LINKER
!
! ABSTRACT:
!               REQUIRE FILE TO DEFINE LOCALLY SOME
!               INTERESTING GENERAL SYMBOLS, STRUCTURES AND MACROS
!
! HISTORY:
!
!       AUTHOR: T.J. PORTER 15-DEC-76
!
!       MODIFICATIONS:
!
! NO.   DATE            PROGRAMMER      PURPOSE
! ---   ----            ----------      -------
! 01    19-OCT-77       K.D. MORSE      REMOVED CSTRING AND SH$SEQUENCE MACROS.
! 02    19-OCT-77       K.D. MORSE      REMOVED TRUE AND FALSE DEFINITIONS.
!
!--
```

```
!
!++
!
! FUNCTIONAL DESCRIPTION:
!               THIS REQUIRE FILE DEFINES SOME GENERAL, LOCAL VALUES AND MACROS
!       WHICH CANNOT OR ARE BEST NOT DEFINED GLOBALLY.
!
!--
!
MACRO
        SHORT = UNSIGNED(6)%,           ! SHORT LITERAL ATTRIBUTE
        BYTLIT = UNSIGNED(8)%,          ! UNSIGNED BYTE ATTRIBUTE
        WORDLIT = UNSIGNED(16)%,        ! UNSIGNED WORD ATTRIBUTE
!
! MACRO THAT DESCRIBES A STRING
!
        STRINGDESC(STRING) = %CHARCOUNT(STRING), UPLIT(%ASCII STRING)%,
!
! MACRO TO GENERATE A QUADWORD STRING DESCRIPTOR
!
        DESCRIPTOR(STRING) = VECTOR[2] INITIAL(STRINGDESC(STRING))%;
!
! MACRO TO GENERATE A COUNTED STRING AS A BYTE VECTOR
!
        CSTRING(STRING) = UPLIT BYTE(%CHARCOUNT(STRING),STRING)%,
!
! MACRO TO ALLOCATE AN N-CHARACTER STORAGE VECTOR
!
        CH$SEQUENCE(N) = VECTOR[CH$ALLOCATION(N)]%;
!
! A SET OF MACROS FOR GENERATING STRUCTURE REFERENCE MACROS
!
COMPILETIME
        XXXXXXXSIZE = 0;

MACRO
    BYTEBLOCKFIELDS(BLKNAM)[] =
        MACRO %NAME(%STRING(BLKNAM),'$C_START') =
                0,0,0,0%QUOTE%;
        XXXXXXXXBBF(BLKNAM,0,%REMAINING);
        GLOBAL LITERAL %NAME(%STRING(BLKNAM),'$C_SIZE') = XXXXXXXSIZE : WEAK%,

    XXXXXXXXBBF( BLKNAM, OFF, NAM, BYTS)[] =
        MACRO %NAME( %STRING(BLKNAM), '$', %STRING(NAM)) = OFF, 0, MIN(BYTS*8, 32), 0 %QUOTE %;
        %ASSIGN(XXXXXXXSIZE,OFF+BYTS)
        XXXXXXXXBBF( BLKNAM, OFF+BYTS, %REMAINING)%;
!
LITERAL
        SYM$C_MAXLNG  = 15,             ! MAXIMUM LENGTH OF STRINGS
        CONTROL_REGION = %X'40000000',  ! START OF CONTROL REGION
        SYSTEM_SPACE = %X'80000000',    ! START OF SYSTEM SPACE
        MAX_ADDRESS = %X'C0000000';     ! MAXIMUM VIRTUAL ADDRESS

STRUCTURE
        QUADVECTOR[I;N] =               ! A VECTOR OF N QUADWORDS
                [ N * 8 ]
                (QUADVECTOR + 8*I);
!
!
!       THE FOLLOWING MACROS GENERATE ACCESSING MACROS FOR BLOCK
!       STRUCTURES WHICH HAVE FIELDS OF BYTE, WORD OR LONG WIDTH.
!
COMPILETIME
        YYYYYYYSIZE = 0;                                                ! VARIABLE WHICH IS RESULTANT BLOCK LENGTH
!
MACRO
!
    GENBLOCKFIELDS(BLKNAM)[] =
!
! CALLING SEQUENCE:
!       GENBLOCKFIELDS(BLKNAM,
!               FLDNAM1,FLDWIDTH1,
!               FLDNAM2,FLDWIDTH2,
!                   ............
!                     ETC,
!               FLDNAMN,FLDWIDTHN);
!       WHERE:
!               FLDNAMI = THE NAME OF FIELD I IN THE BLOCK
!               FLDWIDTHI = WIDTH IN BYTES OF FIELD I
!
!       THE MACRO GENERATES FIELD ACCESS MACROS OF THE FORM
!       BLKNAM$X_FLDNAM WHERE X IS B, W, L FOR FIELD WIDTHS OF
!       1, 2, 4 BYTES RESPECTIVELY.
!       IN ADDITION A MACRO OF FORM INIT_BLKNAM IS
!       GENERATED FOR STATIC INITIALIZATION OF BLOCK. FOR EXAMPLE
!       INITIAL (INIT_BLKNAM(VALUE1,VALUE2,....VALUEN))
!
!
!       GENERATE A MACRO TO REFERENCE THE START OF THE BLOCK
!
        MACRO %NAME(%STRING(BLKNAM),'$C_START') =
                0,0,0,0%QUOTE%;
!
!       GENERATE THE ACCESSING MACROS FOR ALL THE FIELDS OF THE BLOCK
!
        YYYYYYYYBBF(BLKNAM,0,%REMAINING);
!
!       DEFINE A GLOBAL LITERAL (FOR LINK TIME ERROR DETECTION) WHOSE
!               VALUE IS NUMBER OF BYTES IN BLOCK
!
        GLOBAL LITERAL %NAME(%STRING(BLKNAM),'$C_SIZE') = YYYYYYYSIZE : WEAK;
!
!       NOW DEFINE A MACRO THAT CAN BE USED TO STATICALLY INITIALIZE
!               ALL THE FIELDS OF THIS BLOCK
!       MACRO NAME IS INIT_BLKNAM
!
        YYYCRE8INIMACRO(%NAME('INIT_',%STRING(BLKNAM)), (ZZZBBF(%REMAINING)), (XXXBBF(%REMAINING)))%,
!
! AUXILIARY MACROS:-
!
    YYYCRE8INIMACRO(NAME, FORMAL, BODY) =
                MACRO NAME FORMAL =%REMOVE BODY%QUOTE%%,
!
    ZZZBBF[FLDNAM, FLDWIDTH] = %NAME(%STRING(FLDNAM),'_FML')%,
!
    XXXBBF[FLDNAM, FLDWIDTH] = %IF FLDWIDTH EQL 1 %THEN BYTE
                                 %ELSE %IF FLDWIDTH EQL 2 %THEN WORD
                                         %ELSE LONG
                                          %FI
                                   %FI
                                         (%NAME(%STRING(FLDNAM),'_FML'))%,
!
    YYYFLDPREFIX(WIDTH) = %IF WIDTH EQL 1
                         %THEN B
                         %ELSE %IF WIDTH EQL 2
                               %THEN W
                               %ELSE L
                               %FI
                         %FI%,
!
    YYYYYYYYBBF( BLKNAM, OFF, NAM, BYTS)[] =
        MACRO %NAME( %STRING(BLKNAM), '$', %STRING(YYYFLDPREFIX(BYTS)),'_', %STRING(NAM)) =
                         OFF, 0, MIN(BYTS*8, 32), 0 %QUOTE%;
        %ASSIGN(YYYYYYYSIZE,OFF+BYTS)
        YYYYYYYYBBF( BLKNAM, OFF+BYTS, %REMAINING)%;
```

0299 AH-BT13A-SE
VAX/VMS V4.0

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LISTEL
REQ

PATTAB
REQ

PREFIX
REQ

SYSSER
REQ

VXSMAC
REQ

DATBAS
REQ

PATACS
REQ

PATPCT
REQ

VAXERR
REQ

DYNMEM
LIS

PATPRE
REQ

PATTER
REQ

SCALIT
REQ

PATGEN
REQ

VAXOPS
REQ

PATACT
LIS

DLLNAM
REQ

SYMFMT
REQ

PATRTS
REQ

IMGDEF
REQ

PATTBL
REQ

PATTOK
REQ

PATKEY
REQ

SYSLIT
REQ

VXPALT
REQ